NOTE XII.

ON THE SHREWS FROM THE MALAYAN ARCHIPELAGO.

BY

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It is a great exception if collections made by naturalists having collected in the islands of the Malayan Archipelago contain Shrews. For that reason specimens of this group of Insectivora are very rare in the Musea of Natural History and a very small number of species have been described. In this paper I will try to give a review of the known species and their distribution over the islands of the named Archipelago.

In the 12th edition of his Systema Naturae, Linnaeus described the first a Malayan species after a specimen from Java: he named it *Sorex murinus* (*Sorex marinus* apud Gmelin). Notwithstanding Pallas was convinced of the fact that he described Linnaeus' species, he however called it *Sorex myosurus*. S. Müller and Macklot, the zealous and well known members of the scientific staff of the Dutch Commission for natural history investigations in our Archipelago, reported that *Sorex myosurus* P. (*S. murinus* L.) was to be found in Sumatra, Java, Borneo, Celebes and Amboina, but that there is living in Timor another species, which they described under the name of *Sorex tenuis* in the work, entitled »Verhandelingen over de Natuurlijke Geschiedenis, etc. 1839—1841".

Professor Peters described in the »Monatsberichte, 1870" the following new species: *Crocidura foetida* from Borneo, *Cr. doriae* from Borneo, *Cr. monticola* from Java, and *Pachyura sumatrana* from Sumatra.

Dr. Trouessart created a new species, *Crocidura edwardsiana*, based upon two immature female specimens from the islands in the Soulou-Archipelago (Le Naturaliste, 1880).

Dr. Dobson published in the »Annali del Museo Civico di Genova, 1887", descriptions of two new species from Sumatra, *Crocidura paradoxura* and *Cr. beccarii.*

Up to this day no other species have been mentioned, as far as I am aware.

Pallas relates nothing as to the origin of his *Sorex myosurus*, but it may be a species from the Malayan Archipelago or not, the species called *S. myosurus* in the »Verhandelingen" as being found nearly in all the East-Indian Islands is certainly *not* Pallas' species: it has a much shorter tail and is for the rest a much larger animal than *S. myosurus* Pallas. It agrees very well and I believe it identical with *Sorex indicus* Geoffroy, described in the »Annales du Muséum, 1811" and figured in the »Mémoires du Muséum, 1815".

In our collection are three specimens of a Shrew under the name *Sorex tenuis* Müller, two stuffed and one in alcohol: they are from Timor. One of the stuffed specimens agrees with the short description in the »Verhandelingen": the two other specimens differ from *tenuis* as well as from one another in dentition, color and size: they belong to two different species and will be described hereafter.

Other undescribed species in our Museum are from Sumatra, collected by S. Müller, from Java by S. Müller, from Banka procured by Vosmaer, and from Ternate presented by van Musschenbroek. The geographical distribution of the Malayan Shrews is thus as follows:

Sumatra.

Pachyura indica Geoffroy.
» *sumatrana* Peters.

Crocidura neglecta Jentink.
» *paradoxura* Dobson.
» *beccarii* Dobson.
» *brunnea* Jentink.

Banka.

Crocidura? vosmaeri Jentink.

Borneo.

Pachyura indica Geoffroy.
Crocidura foetida Peters.
» *doriae* Peters.

Soulou-islands.

Crocidura edwardsiana Trouessart.

Java.

Pachyura indica Geoffroy.
Crocidura brunnea Jentink.
» *monticola* Peters.

Timor.

Crocidura tenuis Müller.
» *macklotii* Jentink.
Pachyura mülleri Jentink.

Ternate.

Pachyura unicolor Jentink.

Batjan.

Pachyura indica Geoffroy.

Amboina.

Pachyura indica Geoffroy.

Crocidura tenuis, S. Müller.

Description of the type, an adult specimen (stuffed): base of the hairs slaty colored, upperparts chocolate-brown, underparts lighter; head very elongate; tail with short hairs closely set, so that the scales are invisible; the basal part is behaired like the back, no elongated hairs on the tail as in other species.

Upper jaw: posterior hook of the first incisor of the height of the third unicuspidate tooth, second unicuspidate tooth as high as the first molar, fourth unicuspidate somewhat smaller than the third.

Lower jaw: first incisor without denticulations, second tooth flat and not so high as the third unicuspidate.

All the teeth are white.

For measurements see page 167.

Hab. Timor. Collected by Macklot.

Crocidura macklotii, n. sp.

Description of the type, an adult specimen (in alcohol): base of the hairs mouse-color, upperparts and lowerparts of head and body of a light shining brown. Tail hairy, scales invisible; tail and upperparts of feet brown. Muzzle swollen.

Upper jaw: posterior hook of the first incisor of the size of the third unicuspidate tooth, second unicuspidate on the same level with the anterior hook of the first incisor, fourth unicuspidate somewhat larger than the third.

Lower jaw: first incisor without denticulations, second unicuspidate flat, third unicuspidate higher than the second.

All the teeth are white.

For measurements see page 167.

Hab. Timor. From the collections made by Müller and Macklot.

Crocidura brunnea, n. sp.

Description of the type, an adult specimen from Java (stuffed): base of hairs black; upperparts reddish brown, lowerparts somewhat lighter colored. Tail with very short brown hairs, scales visible; basal part of tail with a few longer hairs. Muzzle pointed.

Upper jaw: posterior hook of first incisor of the same height as the third and fourth unicuspidate teeth, anterior hook of first incisor in the same level with the second unicuspidate and the first molar.

Lower jaw: first incisor without denticulations, second unicuspidate very flat, attains half the height of the third unicuspidate, the latter as high as the posterior cusp of the first molar.

All the teeth are white.

For measurements see page 167. The individual (stuffed) from Sumatra is somewhat larger than the Java-specimen.

Hab. Java and Sumatra. Collected by S. Müller.

Crocidura neglecta, n. sp.

Description of the type, an adult female (in alcohol): base of hairs black; hairs of upperparts tipped with brownish red, underparts somewhat yellower. Tail and feet very hairy, brownish red; scales of tail entirely covered by the hairs: a few long fine hairs on the basal part of the tail. Tail much shorter than in the other species. Muzzle pointed.

Upper jaw: posterior hook of first incisor about the height of the second unicuspidate tooth, the latter being on the same level with the first molar; third and fourth unicuspidate teeth of the same size and about half the height of the posterior hook of the first incisor.

Lower jaw: first incisor without denticulations; second unicuspidate flat, as high as the anterior cusp of the first molar; third unicuspidate somewhat higher than the posterior cusp of the first molar.

All the teeth are white.

For measurements see page 167.

Hab. Sumatra. Collected by S. Müller.

Crocidura? vosmaeri, n. sp.

Description of the type, a young specimen (in alcohol): upperparts of a beautiful velvet brownish black; lowerparts of the same color, but the tips of the hairs have a lighter tinge. Tail and feet thickly covered with hairs colored like those of the back: basal part of tail with a few longer fine hairs. Muzzle swollen.

Although this specimen is still young, as the teeth are partly covered by the gums, so that it can not be made out if it belongs to the genus *Crocidura* or to *Pachyura*, I have no doubt as to its specific difference, as no other species shows a system of coloring like it.

The teeth are white.

For measurements see page 167.

Hab. Banka. Presented by Mr. Vosmaer.

Pachyura mülleri, n. sp.

Description of the type, an adult specimen (stuffed): base of the hairs mouse-color, upperparts light brown, underparts yellowish tipped. Scales of tail visible; a few short hairs are widely set on the tail; the basal half with several very long hairs. Muzzle swollen.

Upper jaw: posterior hook of first incisor very small, somewhat more than half the size of the third and fourth unicuspidate teeth, the latter two are of the same size and attain about three quarters of the height of the second unicuspidate: fifth unicuspidate has a circular form, is very small, not to be seen from without, about half the height of the third and fourth teeth.

Lawer jaw is wanting, see my Catalogue ostéologique, 1887, p. 250, s. n. *Pachyura tenuis.*

All the teeth are white.

For measurements see page 167.

Hab. Timor. Collected by S. Müller, 1828.

Pachyura unicolor, n. sp.

Description of the type, an adult female (stuffed): all the hairs of a uniform bluish black color, with a soft brownish tinge along the back. Tail with very few hairs, no elongated ones. Muzzle pointed.

Upper jaw: posterior hook of first incisor as high as the third and fourth unicuspidate teeth, the latter being of the same size; second unicuspidate as high as the first molar; fifth unicuspidate has an ovoidal form, is of the height of the cingulum of the fourth tooth and is not to be seen from without.

Lower jaw: first incisor without denticulations; second unicuspidate flat, about half the height of the third unicuspidate; the latter is somewhat higher than the posterior cusp of the first molar.

All the teeth are white.

For measurements see page 167.

Hab. Ternate. Presented by Mr. van Musschenbroek in 1877 and collected by him on January 11, 1875.

Some measurements (in millimeters) of the above described and mentioned species:

	Head a. body	tail	ear	hind-foot
Pachyura indica Geoffroy	130	68	11	21
» *sumatrana* Peters	109	66	12	19
» *mülleri* Jentink	95	52	8	18
» *unicolor* Jentink.	104	48	8	16
Crocidura? vosmaeri Jentink.	61	37	6	12
Crocidura neglecta Jentink	81	36	7	12
» *paradoxura* Dobson	66	105	10,5	16
» *beccarii* Dobson	66	53	7	13
» *foetida* Peters	64	56	8,5	15
» *doriae* Peters	80	60	10	16
» *edwardsiana* Trouessart. .	84	46	8	18
» *brunnea* Jentink.	75	47	6,5	15
» *monticola* Peters.	55	47	4,5	6,5
» *tenuis* Müller	78	50	8	14
» *macklotii* Jentink	84	46	7	15,5